

Workshop on Fire Hazards: Causes, Prevention and Basic Fire Fighting

PHYSICS AND CHEMISTRY OF FIRE AND ITS EXTINGUISHING MECHANISM

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ABSTRACT

Fire is a complex chemical process influenced by several factors that affect its growth, speed and development. The physical properties of matters and its chemical behaviour in fire, mechanics, effect of heat and temperature, expansion of materials under thermal stress, transmission of heat, combustion chemistry, fire extinguishing mechanism all play vital role in the fire development and its prevention. Therefore, it is very important to acquire a good understanding of what happens in a fire; the best possible method available to extinguish it and provide the scientific basis to analyse the cause, origin, and progress of fire. This presentation addressed all of the above relevant issues and discussed the physical and chemical process of fire – how it behaves and how they can be extinguished by the fire fighters. A few Indian case studies are considered in this presentation along with the common solution needed to avoid the fire accident in buildings in future.